

since it was merely requisite to place a mass of the filaments of *Spirogyra crassa* about to conjugate, in a basin of water, and then watch the changes above mentioned, which would be sure to occur in many of the conjugating filaments; but of course, to be understood, they required a practised eye, or to be pointed out by a person conversant with the subject.

ZOOLOGICAL SOCIETY.

May 13, 1856.—Dr. Gray, F.R.S., in the Chair.

SOME REMARKS ON CRUSTACEA OF THE GENUS LITHODES,
WITH A BRIEF DESCRIPTION OF A SPECIES APPARENTLY
HITHERTO UNRECORDED. By ADAM WHITE.

The group *Lithodes*, founded by Latreille upon our well-known, though not very common, spine-covered, empty-bodied *Lithodes Maia*, begins now to become better known. Of the excellent figure of this type of the genus, published by Dr. Leach in his 'Malacostraca Britannica,' it is sufficient to say that it was drawn and engraved by the late James Sowerby, F.L.S., and coloured from his pattern.

A very young specimen, procured by R. M^cAndrew, Esq., F.R.S., during his late Norwegian cruise, shows that in the young state the asperities are rather sharper, and the carapace is decidedly longer in comparison with its breadth, than in the adult state; the arrested development of the pieces forming the tail is characteristic in the adult as it is in the young specimen, 1 inch long, dredged by Mr. Barrett, and presented by Mr. M^cAndrew to the Museum.

Seba (vol. iii. pl. 22. f. 1) has figured a specimen with longer and more divergent terminal horns to the rostrum. As a bad specimen exists of this variety in the Paris Museum, Prof. Milne-Edwards fancies, and with good reason too, that it may prove a distinct species; he has provisionally named it *Lithode douteuse* (Crust. ii. 186); at all events, it is a variety which research may find in this country, for different specimens differ in their degrees of divergence in the horns of the rostrum.

Haan, in his 'Fauna Japonica,' 217. t. 47, has figured the male of *Lithodes Camschatica*, a species first described as *Maia Camschatica* by Tilesius in the 'St. Petersburg Memoirs,' v. p. 336. pl. 5. & 6, the female (1812). This species is named by the Chinese *Sima-gani*—that is, the Insular Crab.

Tilesius tells us that it is found on the shore of Kamschatka, among the rocks, where it conceals itself and keeps sedentary, living upon cuttle-fish (*Sepia octopodia*), and snaring Starfishes and Mollusca. He records that this *Lithodes* fixes itself so firmly and resolutely in a hole of a rock, that you could not draw it out without breaking its shell. He compares the tenacity with which the *Lithodes* is held in the hollow of the rock to the fixedness of the *Echinus mammillaris*.

The same learned naturalist has figured another large species from Japan (218. t. 48) as the *Lithodes hystrix*; it is one which Siebold, in

his 'Spicilegia,' p. 15, had only ventured to regard as the common *L. Maia* (*Lithodes arctica*, Lam., Sieb.). The *L. hystrix*, Haan, is a beautifully distinct species very thickly covered with sharp spines, named by the Japanese, *Jeara-gani*, the prickly crab, or *Aka-onigani*, the Devil's red-crab.

This list completed the number of the group found in the northern hemisphere, up to the publication of *L. (Echidnocerus) cibaríus*, before alluded to. The species to be described in this paper was found by Mr. Lobb cast ashore after a violent storm on the coast of California; and as it has some peculiarities of structure in its legs, antennæ, carapace and abdomen, distinguishing it from any other, it may be named *Lithodes (Petalocerus)*, from the beautiful petal-like lobes of the antennæ. Before describing it, it may be well to review the species of *Lithodes* found in the southern hemisphere.

Messrs. Hombron and Jacquinot, on D'Urville's 'Voyage au Pole Sud,' discovered a fine species which they named *Lithodes antarctica*, pl. 7-8. f. 9, jun. Dana, too, has described and figured this in the 'Crustacea of the United States Exploring Expedition,' i. 427. pl. 26. f. 15. ♀. He found it at Nassau Bay in Fuegia, where he tells us it grows to a very large size; the exuviae of one, obtained by Mr. Dana, were 8 inches long, and the longest legs were 15 inches in length. He describes the species as abundant in water 6 or 7 feet deep, "where it is observed to creep along the bottom with sluggish motion; they have no legs or appendages fitted for swimming. Colour, dark cherry-red, the carapace with a slight purplish tinge. The long spines that cover the carapace and legs are longest proportionally in small individuals; the right hand is much the stoutest, the second basal joint of outer antennæ with a single longish spine on the outer side" (*loc. cit.* i. p. 428).

We hope that Mr. Despard and his noble band, who are now, or will shortly be, in these seas, will find this and the other, and perhaps new, Fuegian species. Specimens of the young are sometimes found in the stomachs of fishes, as in the case of the half-digested *Lithodes Maia* sent to Dr. Leach by the late Dr. Patrick Neill, and now in the British Museum. It would be well to keep some specimens like this.

Gay in his 'Chili' mentions it (iii. 182) as a native of Chili.

The *Lithodes granulosa*, Hombron and Jacquinot, 'Voy. au Pole Sud,' pl. 8. f. 15, has the beak scarcely projecting at all beyond the extra-orbital angle; the carapace and upper parts of its legs are thickly invested, as in some of the *Canceridæ*, with close strawberry-surfaced granules, closely pressed together. It is a small species, evidently very distinct from *Lithodes* and more allied to *Lomis*—it may be called *Paralomis granulosa*. We have it in the British Museum. The figure in the 'Voyage au Pole Sud' is extremely bad, not at all giving correctly the surface of the carapace and legs, which are *closely* matted with the warts.

Messrs. Edwards and Lucas have published the description of a fine species, said to come from the Southern Pacific, in the Archives du Muséum, ii. 465. pl. 24-27, and given ample details of it. It

is named, from its short legs, *Lithodes brevipes*; its beak is short. In the British Museum we have a specimen.

The *Lithodes verrucosa*, Dana (pl. 26. f. 16. vol. i. pl. 428), was found by that able and active naturalist in Fuegia. The carapace is verrucose throughout.

The *Lomis hirta* of M. Edwards, founded on the *Porcellana hirta* of Lamarck (Anim. s. Vert. v. 229), is an interesting generic form, to which Lichtenstein, in one of his catalogues, had applied the name *Thylacurus*. De Haan, who quotes this, has figured a second species in his 'Fauna Japonica' (219. t. 48. f. 2. & t. Q), under the name *Lomis dentata*:—"tota tomentosa, setis brevibus densis; thoracis margine medio 8-spinoso, pedibus secundis, tertiis et quartis margine antico 15-spinosis, spinis cristam subcontinuum formantibus."

Lomis hirta is abundant on the coast of Tasmania.

LITHODES (PETALOCERUS) BELLIANUS.

The first feature of the curious crab here described is the strawberry-like surface of its carapace, and of the blunt spines with which its legs are covered; the next feature is the subequilateral triangular figure of that carapace; this part is produced above the eyes into a notched projection, with two slight prominences down the middle; this covers up the front part of the head, and conceals a wart-covered spine above the base of the pedicels of the eye, which pedicels are spiny above. The carapace has 3 spines on each side, and 2 tubercles; the first spine is directed forwards, and has one or two indistinct spinelets at its base; the second and third are separated from the first by a considerable sinus, and are near each other; they are directed laterally, but slightly inclined forwards like the other two, and indeed, like the whole of the carapace and the spines on the legs, they are covered with the close warting so characteristic of this species; there are two tubercles on the lateral border, which at its end are united at the base; the anterior is the larger; the hind part of carapace is straight, bending round towards these tubercles and thickened on the edges, one of its monticuli being connected with the hindmost lateral tubercle; the stomach, genital and cardiac regions are covered by a projecting portion occupying a considerable part of the back of the carapace and raised above it; this projecting part is environed by a somewhat lyre-shaped wall, pinched in front on the sides and somewhat notched behind with two deep fossæ placed transversely and connected by a short canal, the base of which is smooth with only a few groups of warts.

The abdomen is very regular and complete for the group, and when additional specimens will admit of its being dissected, its structure promises to be curious; the various parts of it are hardly perceptible in the individual examined; a tolerably regular series of strange, close-placed appendages on its edges, seem, on cursory observation, very curious: there are about 12 deepish fossæ over it, the 2 deepest in the basal portion close to back part of carapace, and almost at right angles to the rest of abdomen, 3 on each side diverging into smaller fossulæ towards the edges, and 4 down the centre.

This fine species is named *Lithodes (Petalocerus) Bellianus* in compliment to the ablest of our British carcinologists, the learned and scientific President of the Linnæan Society, Professor Thomas Bell ; in whose fine collection it is preserved. It is to him I am indebted for the loan of the specimen.

May 27, 1856.—Dr. Gray, F.R.S., in the Chair.

Mr. Gould brought under the notice of the Meeting a portion of the Birds collected by Mr. John MacGillivray, the naturalist attached to H.M. Surveying ship Rattlesnake, and lately sent home by Capt. Denham, the Commander of the Expedition. They were obtained on the Fijis, San Cristoval, Isle of Pines, and other islands.

Perhaps the most remarkable of these birds is a species of *Centropus*, which exceeds in size every other member of the genus Mr. Gould has yet seen. The single specimen sent home is not fully adult, as is evidenced by some freshly moulted feathers of the tail and wings differing in colour from the older ones. On account of its large and robust form, Mr. Gould proposes to call this species

CENTROPUS MILO.

Head, neck, mantle and breast tawny-white, remainder of the plumage mottled brown and green ; some of the feathers being brown indistinctly banded with green, while others are entirely green, the mottled hue being that of immaturity, and the green the adult livery : bill black.

Total length, $26\frac{1}{2}$ inches ; bill, $2\frac{1}{2}$ inches long by $1\frac{1}{2}$ deep at the base ; wing, $10\frac{3}{4}$; tail, $14\frac{1}{2}$; tarsi, 3.

Hab. Guadalcanar Island.

Remark.—The specimen is a male. Unlike the other members of the genus, this species has bare orbits, with the colouring of which Mr. Gould is not acquainted.

For a fine species of Fruit-eating Pigeon from the Isle of Pines, Mr. Gould proposed the name of

IANTHÆNAS HYPÆNOCHROA.

Head, neck, breast, and under surface vinaceous brown, with glossy purple reflexions on the back of the neck, and a slight gloss of the same hue on the sides of the neck and breast ; chin, sides of the face and throat white ; all the upper surface, wings and tail dark slate-grey, the margins of the wing-coverts and the feathers of the back and upper tail-coverts glossed with bronzy green ; bill scarlet at the base, yellow at the tip ; orbits naked and scarlet ; feet reddish flesh colour.

Total length, 16 inches ; bill, $1\frac{1}{8}$; wing, $9\frac{1}{4}$; tail, 7 ; tarsi, 1.

Hab. Isle of Pines.

Remark.—This is a fine species, about the size of the common Pigeon of Europe. It pertains to the subgenus *Ianthœnas*, the members of which are very nearly allied to the birds constituting the genus *Carpophaga*.

Another Pigeon from the same locality was named

TURACÆNA CRASSIROSTRIS.

Head, all the upper surface, wings and tail dark slaty black, the feathers of the back margined with a deeper black; a broad band of grey across the lateral tail-feathers near the base, and the outer feather on each side tipped with darker grey; throat greyish white; under surface sooty, washed with grey on the sides of the neck, the breast and centre of the abdomen.

Total length, $14\frac{1}{2}$ inches; bill, $1\frac{1}{8}$; wing, $7\frac{3}{4}$; tail, $7\frac{1}{2}$; tarsi, 1.

Hab. Guadalcanar Island.

Remark.—This is a smaller bird than the Australian *Macropygia phasianella*, has a much thicker bill, and a shorter tail, which organ is moreover of a graduated form.

A fine Lory from San Cristoval was named

LORIUS CHLOROCERCUS.

Head, nape, and a patch on each side the neck black; plumage of the whole of the body fine scarlet, with a broad crescentic mark of rich yellow across the breast; tip of the shoulder silvery blue; wing-coverts yellowish green; outer webs of the primaries and secondaries dark grass-green; inner webs dull black, with a broad oblong mark of scarlet along their basal portions; basal half of the tail scarlet, the remainder grass-green; under wing-coverts and thighs fine blue; bill orange; feet dark brown.

Total length, 10 inches; bill, $\frac{7}{8}$; wing, $6\frac{5}{8}$; tail, $4\frac{1}{4}$; tarsi, $\frac{3}{4}$.

Hab. San Cristoval.

Remark.—This is one of the most beautiful species of the genus, and differs from all its congeners in having the apical half of the tail green.

A new *Hirundo* from Moala, one of the Feejee Islands, was characterized as

HIRUNDO SUBFUSCA.

Forehead, chin and throat rufous; crown of the head, all the upper surface, wing- and tail-coverts steel-black; wings and tail dark brown; under surface of the body and under wing-coverts dark fuscous; under tail-coverts steel-black, margined with light brown.

Total length, 5 inches; bill, $\frac{1}{2}$; wing, $4\frac{1}{4}$; tail, 2; tarsi, $\frac{1}{2}$.

Remark.—This is a very remarkable Swallow, resembling in the colouring of its back, throat and forehead the common Swallow of Europe; it is also very similar in size, while it has a much larger bill and a very diminutive and but slightly forked tail, the outer feathers not being produced as in the European bird.

The five birds above described are now deposited in the collection at the British Museum.

Mr. Gould also described a new and very beautiful Pigeon from the Solomon Islands as

IOTRERON EUGENIÆ.

Crown of the head, cheeks, upper part of the throat and ear-

coverts white ; centre of the throat and chest of the richest crimson ; upper surface and wings green washed with orange ; along the shoulder a mark of light grey, and a large spot of grey near the tip of each of the tertiaries ; primaries dark slate-grey tipped with orange-brown ; secondaries slate-grey bordered with orange-brown, and with a very narrow edge of yellow along the apical portion of the external web ; under surface of the body greyish green ; under surface of the wings grey ; vent washed with yellow.

Total length, about 8 inches ; bill, $\frac{3}{4}$; wing, $4\frac{1}{2}$; tarsi, $\frac{5}{8}$.

Hab. The Solomon Islands.

Remark.—The only specimen I have ever seen, and which is unfortunately imperfect, being destitute of tail, was sent to me by Mr. Webster, who had visited the above islands. This beautiful little Pigeon, certainly the most brilliantly coloured of the entire group, has been named in honour of Her Imperial Majesty the Empress of the French.

MISCELLANEOUS.

NEW LOCALITIES FOR RARE PLANTS AND ZOOPHYTES.

To the Editors of the Annals of Natural History.

Southlands House, near Chale, Isle of Wight,
Feb. 4, 1857.

GENTLEMEN,—It may be interesting to some of your readers to know, that *Caberea Boryi* (*vide* Busk's Catalogue of Marine Polyzoa, p. 39), found by Miss Cutler on the coast of Devon a few years ago, growing "in minute tufts upon *Eschara foliacea*," is frequently to be met with in this part of the Isle of Wight, nestling among the roots of old specimens of *Laminaria digitata*. The little bay under the village of Niton, terminating at the east in Puckaster Point, is an admirable locality for procuring it, as large quantities of Algæ are thrown ashore there after rough weather. One specimen was found last month, on a little shrubby tuft of "*Kallymenia reniformis*," which at this season is obtained here in fruit.

Crisia aculeata and fine *Notamia Bursaria* are also found here ; and *Laomedea obliqua* may almost be considered abundant.

If a notice of localities for rare plants and zoophytes is at all acceptable, allow me to mention having found *Naccaria Wigghii* in Douglas Bay, in August last, in fruit. *Sphaerococcus coronopifolius* is also not uncommonly cast ashore there ; and during a month's stay I found five or six specimens of *Callithamnion Borreri*, in its most brilliant and beautiful state,—the "*seminudum*," I am told, of Agardh.

In the year 1852, being on a visit of a few days to the late Dr. Johnston, at Berwick, I found on the shore there three specimens of the rare *Rhodymenia cristata*, one of which was in fruit. This was